5(3) SOV/62-59-4-3/42

AUTHORS: Klimova, V. A., Zabrodina, K. S.

TITLE: Simultaneous Microdetermination of Carbon, Hydrogen, and Nitrogen in Nitro Compounds (Odnovremennoye mikroopredeleniye ugleroda, vodoroda i azota v nitrosoyedineniyakh)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 4, pp 582-585 (USSR)

ABSTRACT: The methods described in publications for the simultaneous determination of carbon, hydrogen, and nitrogen in organic compounds are based on the combustion of the substance up to carbonic acid, water, and elemental nitrogen. The method suggested in the present paper consists in burning the substance to be investigated during evaporation in an oxygen stream on platinum. Carbonic acid, water, and nitrogen dioxide, which are formed, are quantitatively absorbed by suitable absorbers and the percentage contents of C, H, N are calculated from the weight increase of the absorbers. In this method the mode of combustion is of decisive importance. A combustion with preceding pyrolysis as is employed in the determination of C and H is not suitable because it reduces the nitrogen dioxide yield

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and involves the formation of a considerable amount of elemental nitrogen. To avoid pyrolysis the evaporation must be slow. The rate of the oxygen stream is of high importance. The optimum rate is 5-8 milliliters per minute (Table 1). Nitrogen dioxide is collected by manganese dioxide (Ref 8), as well as by silica gel impregnated with a 0.02 M $K_2Cr_2O_7$ solution in sulphuric acid (specific gravity 1.84) (Ref 9). The latter has the advantage of absorbing large amounts of nitrogen oxides for an equal length of layer. A certain amount may be retained by the condensation water at the inlet end of the anhydron-filled absorption apparatus. This leads to inaccurate results. For this reason the anhydron-filled apparatus is heated to 75-85° at this point. The temperature of the apparatus filled with anhydron must be less than 100° (Ref 10). During the analysis of haloid-containing nitro compounds a silver gauze roll is also placed in the combustion tube. During the combustion of nitro compounds containing no haloid only a platinum gauze roll 15 cm long is placed in the zone of the elongated furnace. Carbonic acid is absorbed by ascarite and water by anhydron. A scheme of the in-

Simultaneous Microdetermination of Carbon, Hydrogen, and Nitrogen in Nitro Compounds

stallation for the simultaneous microdetermination of C, H, N in nitro compounds having the composition C, H, N, O, Cl, Br is shown in the figure. Analysis results are given in table 2. There are 1 figure, 2 tables, and 10 references, 3 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: July 16, 1957

5 (2)

AUTHORS: Klimova, V. A., Merkulova, Ye. N. SOV/62-59-5-4/40

TITLE: On the Simultaneous Determination of Carbon, Hydrogen, and Halogens (Ob odnovremennom opredelenii ugleroda, vodoroda i galoidov)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 5, pp 781 - 786 (USSR)

ABSTRACT: In the simultaneous determination of carbon, hydrogen, and halogens, halogens were so far determined in a quartz tube lined with silver foil or a silver grid (absorption of the halogen by silver) (Refs 2,3). There was, however, always an error up to ± 0.6%. The error was attributed to the heavy quartz apparatus which rendered the weighing inaccurate. Moreover, the authors noticed that the silver halide being formed melts already at the applied temperatures of 500-550° and affects the quartz of the apparatus. They attributed a part of the error of the determination of the halogen to this fact. In order to prevent a contact between silver halide and quartz and to reduce the weight of the absorption apparatus metal shuttles had been used already by others (Denstedt (Ref 4) and others (Ref

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5)). The authors used platinum shuttles lined with silver foil. The measuring error observed with this method was only ± 0.3%. The determination values obtained are summarized in tables 1 and 2. However, also this method shows some deficiencies. The authors decided to precipitate the silver used in the absorption of the halogens electrolytically in the shuttles and to work at lower temperatures (410-440°). This method showed good results and could also be used in the simultaneous determination of four different elements, e.g. of silicon and boron-organic compounds. Corresponding data are shown in table 3. The experimental part shows the scheme for obtaining the electrolytical silver precipitate in figure 1, the devices for the simultaneous and express determination of the elements mentioned in figures 2 and 3. There are 3 figures, 3 tables, and 7 references, 4 of which are Soviet.

On the Simultaneous Determination of Carbon, Hydrogen, SOV/62-59-5-4/40
and Halogens

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: July 16, 1959

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5(3) SOV/62-59-7-33/38

AUTHORS: Klimova, V. A., Zabrodina, K. S.

TITLE: Microdetermination of the Keto Group With the Oximating Method (Mikroopredeleniye keto-gruppy metodom oksimirovaniye)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 7, pp 1343 - 1345 (USSR)

ABSTRACT: A previous paper (Ref 1) had revealed that the formation of oximes with hydrochloric hydroxyl amine may be made use of for the microdetermination of the carbonyl group; it takes place by the following reaction: $RCOR_1+NH_2OH.HCl \rightarrow RC(=NOH)R_1+$ $+H_2O+HCl$. This reaction is very quick and takes place at room temperature. Heating is required for compounds of the type $\rangle CH-CO-CH\langle$ or $\rangle C-CO-CH\langle$. Under the conditions mentioned an investigation was carried out here to determine the carbonyl group in ketones, esters of ketonic acid and also in diketones which permit oximation. The analytic data are compiled in a table. The determination course is described. It was found that when using 0.3 normal solution of hydrochloric hydroxyl amine, the accuracy of the determination method is higher as

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Microdetermination of the Keto Group With the Oximating Method

SOV/62-59-7-33/38

compared with the utilization of 0.5 n-solution. The following formula was applied for the computation of the %-content of CO with the potentiometric titration:

$$\%CO\text{-group} = \frac{20.1N(a-b).100}{m}$$

. There are 1 table and 1 Soviet reference.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: January 14, 1959

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5.5200

77093
SOV/62-59-12-37/43

AUTHORS: Klimova, V. A., Mukhina, O. K.

TITLE: Brief Communications. Simultaneous Determination of Carbon, Hydrogen, Sulfur and Halogens

PERIODICAL: Izvestiya Akademii nauk. Otdeleniye khimicheskikh nauk, 1959, Nr 12, pp 2248-2250 (USSR)

ABSTRACT: Organic compounds containing sulfur and halogens can be analyzed by Korshun and Sheveleva's method (Zh. anal. khimii, 1952, Vol 7, p 104) giving the content of C, H, and the sum of halogen and sulfur. The authors established that cobaltic oxide at 400-500° absorbs, solely, sulfur oxides but not halogen. They also developed a method for simultaneous determination of carbon, hydrogen, sulfur, and halogen. The method consists of pyrolytic decomposition of the investigated compounds (5-6 mg sample) in high-velocity oxygen flow. The combustion products are absorbed separately: sulfur oxides by Co_2O_3; halogen by electrolytically precipitated silver

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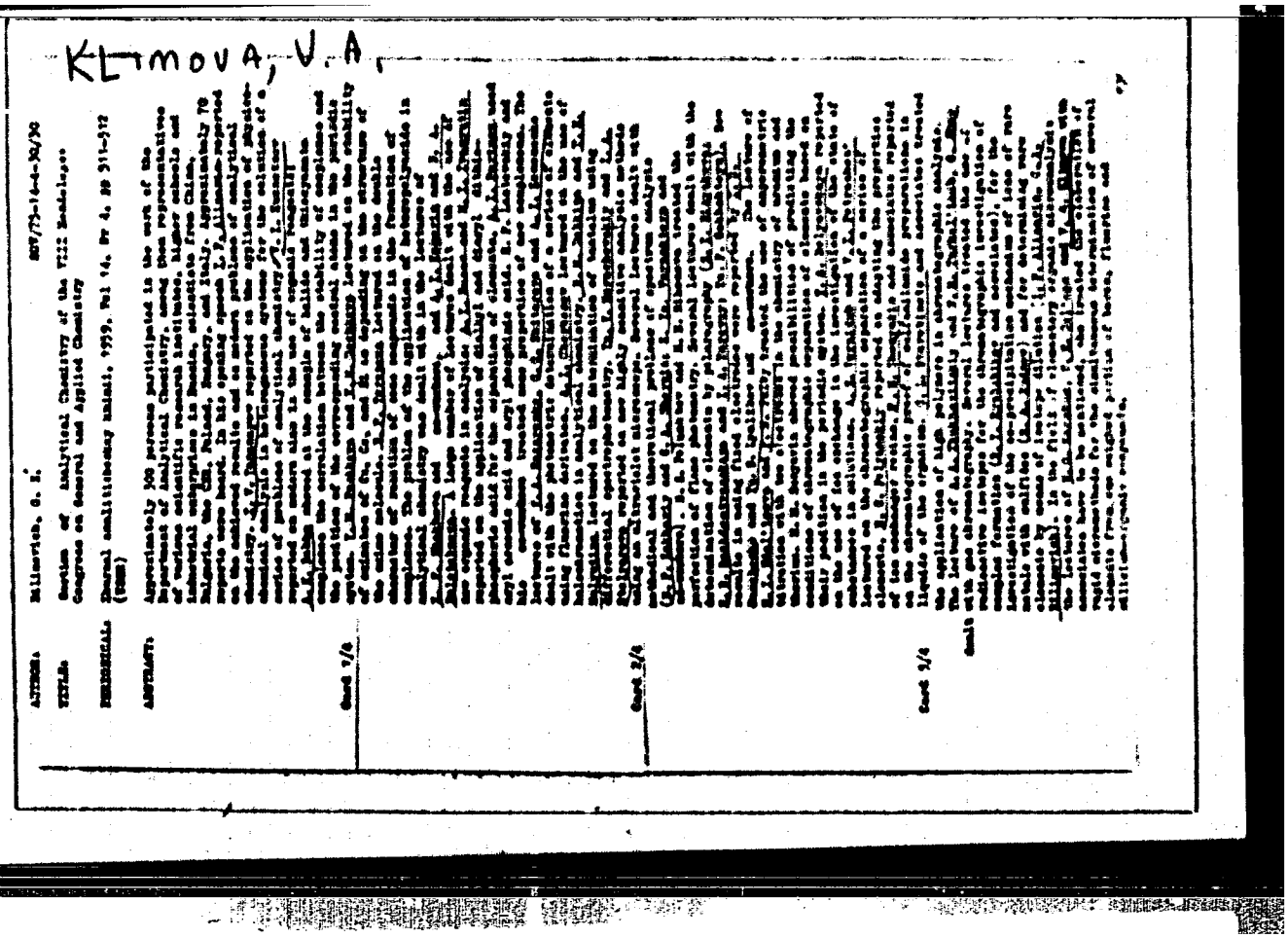
(at 420°); water and CO_2, as usual, by anhydrone and ascarite, respectively.[2] The amount of sulfur is determined by treating cobaltic oxide with water, leaving it overnight, filtering, and titrating the filtrate with $Ba(NO_3)_2$ in the usual manner. The presence of phosphorus and silicon do not hinder the analysis, and their content can be determined from the amount of ashes obtained, using quartz and asbestos analysis of 2-(8-chloronaphthyl)ethyl sulfone. Other compounds also gave satisfactory results. There are 2 figures; 1 table; and 7 references, 1 Austrian, 1 German, 5 Soviet.

ASSOCIATION: N. D. Zelinskiy Institute of Organic Chemistry, Academy of Sciences USSR (Institut organicheskoy khimii imeni N. D. Zelinskogo Akademii nauk SSSR)

SUBMITTED: May 8, 1959



5(4)
AUTHORS: Mayranovskiy, S. G., Faynzil'berg, A. A., Novikov, S. S., Klimova, V. A.

SOV/20-125-2-31/64

TITLE: On the Influence of Negative Groups on the Electrochemical Reduction of the Bond Carbon - Halogen in Organic Compounds (O vliyanii otritsatel'nykh grupp na elektrokhimicheskoye vosstanovleniye svyazi uglerod - galoid v organicheskikh soyedineniyakh). The Polarographic Behavior of Halide-nitroalkanes (Polyarograficheskoye povedeniye galoidnitroalkanov)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 2, pp 351-353 (USSR)

ABSTRACT: The present paper deals with the influence exercised by the nitro groups in α-position on the easiness of the electrochemical reduction of the carbon-halide bond. Even though the nitro group itself is easily polarographically reduced, its presence (as the experiment shows) facilitates the electrochemical breaking of the C-Hal bond to such an extent that the wave corresponding to its reduction becomes a wave of the reduction of the nitro group. The investigation was carried out by means of the recording polarograph of the TsLA

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On the Influence of Negative Groups on the Electrochemical Reduction of the Bond Carbon - Halogen in Organic Compounds. The Polarographic Behavior of Halide-nitroalkanes

SOV/20-125-2-31/64

Energochermet (State All-union Trust for the Design, Planning, Assembly and Adjustment of Power Installations and Control- and Measuring Instruments of the Ministry of Ferrous Metallurgy, USSR). Measures for increasing measuring accuracy are discussed in short. A comparison between the polarograms of the halogenized nitro-compounds and the waves of the analogous nitroproducts containing no halide shows that the first wave of nitrohalide alkanes corresponds to the reduction of the C-Hal bond. This is proved by the independence of $E_{1/2}$ of the first wave of the pH of the solution. The second wave, which corresponds to the reduction of the nitro group, shifts with increasing pH of the solution towards negative potentials. The experimental data corresponding to the reduction of the C-Hal bond are given in a table. In irreducible processes (including the electrochemical reduction of the bond carbon - halide) the potential of the semiwave is only an approximated criterion

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On the Influence of Negative Groups on the Electrochemical Reduction of the Bond Carbon - Halogen in Organic Compounds. The Polarographic Behavior of Halide-nitroalkanes

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of the easiness of the reduction of the C-Hal-bond. The existence of a nitro group in α-position facilitates the reduction of the carbon - halide bond considerably, and the influence exercised by the nitro groups also increases with an increase of their number. As expected, bromides are reduced more easily than the corresponding chlorides. Of the iodides only iodotrinitromethane was investigated. Interest is caused by the variation of the product αn_a of the number n_α of electrons participating in the potential-determining stage of the process and the conversion coefficient α in some substances in which the polarity of the C-Hal-bond varies. The influence exercised by the structure of the investigated substance upon αn_a of their waves will be investigated in the course of a future investigation. There are 1 table and 10 references, 6 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D.

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On the Influence of Negative Groups on the Electrochemical Reduction of the Bond Carbon - Halogen in Organic Compounds. The Polarographic Behavior of Halide-nitroalkanes

SOV/20-125-2-31/64

Zelinskiy of the Academy of Sciences, USSR)

PRESENTED: November 10, 1958, by A. N. Frumkin, Academician

SUBMITTED: November 10, 1958

Card 4/4

KLIMOVA, V.A.; VITALINA, M.D.

Potentiometric microtitration of halides in organic compounds following their mineralization. Zhur.anal.khim. 15 no.3:339-341 My-Je '60. (MIRA 13:7)

1. M.D.Zelinsky Institute of Organic Chemistry, Academy of Sciences, U.S.S.R., Moscow.
(Bromine--Analysis) (Iodine--Analysis)
(Chlorine--Analysis)

84854

S/062/60/000/010/007/018
B015/B064

11.1360

AUTHORS: Mayranovskiy, S. G., Belikov, V. M., Korchemnaya, Ts. B., Klimova, V. A., and Novikov, S. S.

TITLE: Tautomerism of Nitro-compounds. Information 2. Polarographic Investigation of the Kinetics of Tautomeric Conversions of Phenyl Nitro-methane

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 10, pp. 1787-1795

TEXT: In a previous investigation (Ref. 1), the polarographic activity of the aci-form of phenyl nitro-methane was determined. The present paper describes the technique applied and gives the experimental data obtained. The polarographic behavior of the aci- and nitroforms of phenyl nitro-methane was investigated, i.e., the kinetics of the transformation of the aci-form into the nitro-form at pH 1-4, the nitro-form into the anion at pH 7-10, and the anion into the nitro-form at pH 4-6. Moreover, the dissociation constants of the aci- and nitro-forms were

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Tautomerism of Nitro-compounds. Information 2. Polarographic Investigation of the Kinetics of Tautomeric Conversions of Phenyl Nitro-methane

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polarographically and potentiometrically determined. The experiments were conducted in an optical polarograph, and the current was measured with an M-91 (M-91) microammeter. The potential of the dropping electrode was checked with an ЛМ-1 (LM-1) voltmeter, and determined with a П-4 (P-4) potentiometer. The experiments were carried out at 25±0.1°C using various buffer solutions, and the pH was determined with glass electrodes and ЛП-5 (LP-5) or ЛП-59 (LP-59) potentiometers. The potentials of the half-waves at pH 1.15 are $E_{1/2}$ = -0.52 v for the nitro-form and $E_{1/2}$ = -0.66 v for the aci-form. Investigations of the dissociation kinetics showed that the ionization of phenyl nitro-methane in buffer solutions can be described by an equation of the first order. The ionization rate was investigated in the presence of various bases. The rate of transformation of the aci-form into the nitro-form was found to follow the equation of a reaction of the first order throughout the pH range investigated. Investigations on the recombination kinetics of phenyl nitro-methane showed that at pH 4-5 the dissociation of the aci-form and the recombination of the nitro-form take place simultaneously. The values for the dissociation

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Tautomerism of Nitro-compounds. Information 2. Polarographic Investigation of the Kinetics of Tautomeric Conversions of Phenyl Nitro-methane

S/062/60/000/010/007/018
B015/B064

constants of the aci- and nitro-forms under the action of bases and acids were computed with the help of Brönsted's equation (Tables 1,2). The authors thank D. G. Knorre for advice. There are 11 figures, 2 tables, and 5 references: 4 Soviet and 1 US.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: March 24, 1959

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Card 3/3

KLIMOVA, V.A.

TRUDNYY, A.P., otv.red.; ALIMARIN, I.P., red.; GEL'MAN, N.E., red.; KLIMOVA, V.A., red.; KREshkov, A.P., red.; KUZNETSOV, V.I., red.; LEVIN, E.S., red.; PODGAYETSKAYA, Z.I., red.; RUKHADZE, Ye.G., red.; TAL'ROZE, V.L., red.; TSUKERMAN, A.M., red.; SHEMYAKIN, F.M., red.; SHNYUKER, Yu.N., red.; YERMAKOV, M.S., tekhn.red.

[Conference on organic analysis] Soveshchanie po organicheskomu analizu. Tezisy dokladov. Moskva, Izd-vo Mosk.univ., 1961. 170 p. (MIRA 14:4)

1. Soveshchaniye po organicheskomu analizu. 1961.
(Chemistry, Analytical—Congresses)
(Chemistry, Organic--Congresses)

KLIMOVA, V.A.; ZABRODINA, K.S.

Microdetermination of primary and secondary saturated nitro compounds. Izv. AN SSSR. Otd. khim. nauk no. 1:176-177 Ja '61. (MIRA 14:2)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.
(Nitro compounds)

KLIMOVA, V.A.; ANISIMOVA, O.F.

Volumetric analysis completion in the microdetermination of carbon and hydrogen after the decomposition of organic substances by their combustion in an oxygen stream. Izv.AN SSSR.Otd.khim.nauk no.11: 2088-2090 N '61. (MIRA 14:11)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Carbon--Analysis) (Hydrogen--Analysis)

KLIMOVA, V.A.; ZABRODINA, K.S.

Microdetermination of methoxy and ethoxy groups. Izv. AN SSSR Otd.khim.nauk no.12:2234-2235 D '61. (MIRA 14:11)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Ethoxy group) (Methoxy group)

KLIMOVA, V.A.; ANTIPOVA, T.A.

Degradation of organic compounds in a rapid oxygen flow under conditions of microelementary analysis. Zhur.anal.khim. 16 no.3:343-347 My-Je '61. (MIRA 14:6)

1. N. D. Zelinsky Institut of Organic Chemistry, Academy of Sciences of the U.S.R., Moscow.
(Organic compounds)
(Microchemistry)

KLIMOVA, V.A.; ANTIPOVA, T.A.

Flash combustion in the microdetermination of carbon and hydrogen in a rapid flow of oxygen. Zhur. anal. khim. 16 no. 4:465-468 Jl-Ag '61. (MIRA 14:7)

1. N.D. Zelinskiy Institute of Organic Chemistry, Academy of Sciences U.S.S.R., Moscow.
(Carbon—Analysis) (Hydrogen—Analysis) (Oxygen)

KLIMOVA, V.A.; ANTIPOVA, T.A.; MUKHINA, G.K.

Simultaneous determination of carbon, hydrogen, and halogens or sulfur by "flash combustion". Izv. AN SSSR Otd.khim.nauk no.1:19-22 Ja '62. (MIRA 15:1)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Carbon--Analysis) (Hydrogen--Analysis) (Halogens)

KLIMOVA, V.A.; MERKULOVA, Ye.N.

Preparation of finely dispersed silver for the microchemical analysis of elements. Zhur.anal.khim. 17 no.1:142 Ja-F '62.
(MIRA 15:2)

1. N.D.Zelinsky Institute of Organic Chemistry, Academy of Soiences U.S.S.R., Moscow.
(Chemistry, Analytical) (Silver)

KLIMOVA, V.A.; BEREZNITSKAYA, Ye.G.; MUKHINA, G.K.

Determination of elements in tungsten sulfide catalysts. Izv. AN SSSR Otd.khim.nauk no.8:1520-1521 Ag '60. (MIRA 15:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Catalysts, Tungsten)

ZIMNEVA, Yelena Matveyevna [deceased]; SHIBALOVA, Lidiya Ivanovna; SHEMANOVA, Valentina Pavlovna; DIMENT, Esfir' Markovna; GABERTSETTEL', Andrey Ivanovich; KONDRAT'YEVA, Zinaida Sergeyevna; KLIMOVA, V.A., inzh., retsenzent; POPILOV, L.Ya., nauchnyy red.; VASIL'YEVA, N.N., red.; TSAL, R.K., tekhn. red.

[Seawater corrosion of copper alloys]Morskaia korroziia mednykh splavov. Leningrad, Sudpromgiz, 1963. 84 p. (MIRA 16:2)

(Copper alloys—Corrosion)

VITALINA, M.D.; KLIMOVA, V.A.

Simultaneous determination of germanium and halogens in organic compounds. Zhur.anal.khim. 17 no.9:1105-1108 D '62. (MIRA 16:2)

1. N.D. Zelinsky Institute of Organic Chemistry, Academy of Sciences, U.S.S.R., Moscow.

(Germanium—Analysis)
(Halogens)
(Organic compounds)

KLIMOVA, V. A.; VITALINA, M. D.

Use of a cation exchanger in the determination of fluorine by thorimetric titration in fluoroorganosilicon compounds. Izv. AN SSSR Otd. khim. nauk no.12:2245-2246 D '62. (MIRA 16:1)

1. Institut organicheskoy khimii im. N. D. Zelinskogo AN SSSR.

(Fluorine—Analysis)
(Silicon organic compounds)

L 12972-63 EWP(j)/EPF(c)/EWT(m)/BDS ASD Pc-4/Pr-4 RM/MW

ACCESSION NR: AT3002340 S/2513/63/013/000/0007/0015

AUTHORS: Klimova, V. A.; Vitalina, M. D.

TITLE: Volumetric microdetermination of silica in organosilica compounds and dissolved silicates

SOURCE: AN SSSR. Komissiya po analiticheskoy khimii. Trudy*. v. 13, 1963. Organicheskiy analiz, 7-15

TOPIC TAGS: volumetric determination, silica, HCl, NaOH

ABSTRACT: This study showed that the determination of silica in organosilica compounds by a potassium metal fusion was not reproducible. Further investigation of silica analysis established that, by fusion of organosilica and organosilica fluoride materials with caustic potassium in a microbomb made of nickel at a temperature of 700C, the silica can be quantitatively converted into a soluble silicate. Reproducibility of results as indicated through standards is excellent. The dissolved silica is converted into silicomolybdic complex by the addition of ammonium molybdate solution. Prior to the above step, the solution is neutralized the complex is then precipitated with a quinoline solution and washed. The washed precipitate is dissolved in an excess of 0.05N NaOH, and the unreacted NaOH is back titrated with 0.05N HCl. Orig. art. has: 3 tables and 2 figures.

Card 1/2

Inst. of Organic Chemistry

STROMSKAYA, N.P.; SMIRNOVA, T.I.; KLIMOVA, V.A.; LOKTIONOVA, L.I.; SYROMYATNIKOVA, M.A.; ALTMAN, M.B., rukovoditel' raboty.

Effect of metal inclusions on the properties of aluminum foundry alloys. Alium. splavy no.1:55-72 '63. (MIRA 16:11)

ANISIMOVA, G.F.; KLIMOVA, V.A.

Coulometric microdetermination of hydrogen in organic compounds. Zhur. anal. khim. 18 no.3:412-413 Mr '63. (MIRA 17:5)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR, Moskva.

KLIMOVA, V.A.; VITALINA, M.D.

Quantitative determination of germanium in organogermanium compounds. Zhur.anal.khim. 19 no.10:1254-1257 '64. (MIRA 17:12)

1. N.D.Zelinsky Institute of Organic Chemistry, U.S.S.R. Academy of Sciences, Moscow.

L'VOV, A.M.; KLIMOVA, V.A.; PALIY, A.I.

New variant of the micromethod for water determination by Fischer's reagent. Zhur. anal. khim. 19 no.11:1366-1371 '64. (MIRA 18:2)

1. Institut organicheskoy khimii imeni Zelinskogo AN SSSR, Moskva.

KLIMOVA, V.A.; ZABROVINA, K.S.; SHITIKOVA, N.I.

Microdetermination of alkoxy groups in silicon [illegible] organic compounds. Izv. AN SSSR Ser. khim. no.1:[illegible]

(MIRA 18:2)

1. Institut organicheskoy khimii im. N.D. [illegible] AN SSSR.

KLIMOVA, V.A.; ZABRODINA, K.S.; SHITIKOVA, N.L.

Microdetermination of alkoxyl groups in sulfonic acid esters. Izv. AN SSSR, Ser. khim. no.7:1288-1289 '65. (MIRA 18:7)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

L 46962-66 EWT(m)/EWP(t)/ETI IJP(c) JH/JD

ACC NR: AT6024916 (A,N) SOURCE CODE: UR/2981/66/000/004/0070/0077

AUTHOR: Klimova, V. A.

ORG: none

39
B+1

TITLE: Study of the corrosion resistance of VAD23 alloy

SOURCE: Alyuminiyevyye splavy, no. 4, 1966. Zharoprochnyye i vysokoprochnyye splavy (Heat resistant and high-strength alloys), 70-77

TOPIC TAGS: CORROSION RESISTANT ALLOY, aluminum alloy, corrosion resistance / VAD23 aluminum alloy, D16 aluminum alloy

ABSTRACT: In a study of the influence of various technological factors on the corrosion of aluminum alloys, the alloys VAD23 and D16, quenched and aged for 16 hr at 170°C and 12 hr at 190°C respectively, were compared. The corrosion resistance of unclad VAD23 is comparable to that of unclad D16. VAD23 in the artificially aged state (170°C, 16 hr) does not show any tendency toward intercrystalline corrosion or corrosion cracking under stress. A rise in the temperature of the quenching water within the 20-100°C range does not decrease the corrosion resistance of VAD23. Additional heating in the 10-100 hr range at 150-200°C does not lower the corrosion resistance of artificially aged VAD23. Work hardening in the 1-8% range decreases the corrosion resistance of quenched VAD23; subsequent artificial aging raises it almost up to the level of the work-hardened material. Aluminum cladding does not provide for a complete electrochem-

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L 16297-66

ACC NR: AT6024916

ical protection of VAD23 alloy in a 3% NaCl solution. No electrochemical protection whatsoever is observed in 0.01% NaCl. Orig. art. has: 5 figures.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 001/ OTH REF: 003

Card 2/2

REVEL'SKIY, I.A.; BORODULINA, R.I.; SOVAKOVA, T.M.; KLIMOVA, V.G.

Rapid determination of the number of carbon and hydrogen atoms in the molecules of gaseous compounds. Dokl. AN SSSR 159 no.4: 861-864 D '64 (MIRA 18:1)

1. Predstavleno akademikom M.I. Kabachnikom.

KLIMOVA, V. I.

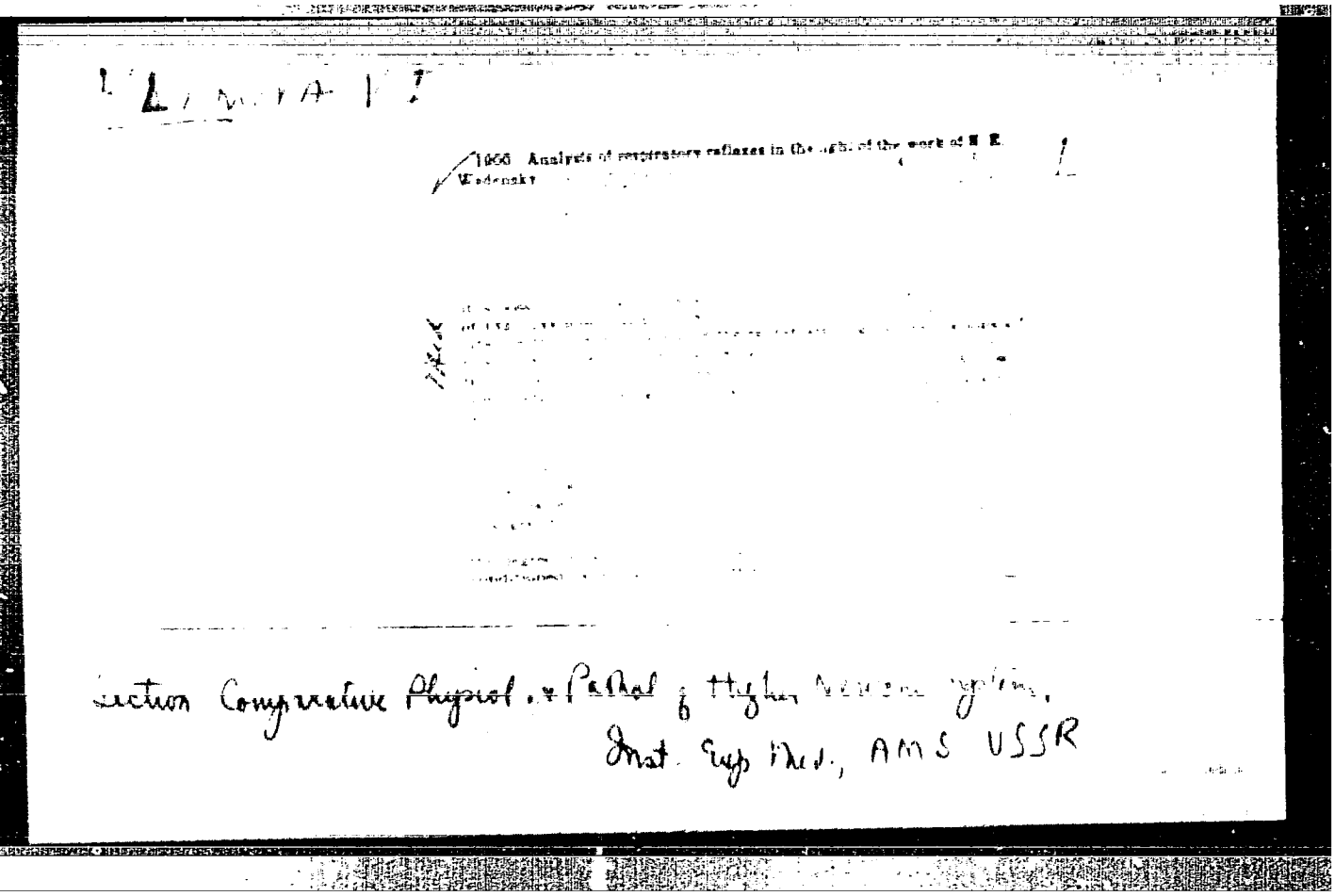
Klimova, V. I. "Comparison of the physiology of conditioned motor reflexes. Experiments on rabbits and guinea pigs," Trudy Voronezhsk. med. in-ta, Vol. XIV, 1948, p. 39-42

SO: U-2888, Letopis Zhurnal'nykh Statey, No. 1, 1949

KLIMOVA, V. I.

Klimova, V. I. "Reflexes in the breathing of frogs during liminal and subliminal stimuli," Trudy Voroneshsk. med. in-ta, Vol. XIV, 1948, p. 77-80

SO: U-2888, Letopis Zhurnal'nykh Statey, No. 1, 1949



1956 Analysis of respiratory reflexes in the light of the work of I. P. Pavlov

Section Comparative Physiol. of Reflex & Higher Nervous Systems,
Inst. Exp. Med., AMS USSR

KLIMOVA, V.I.

Contract agreement is the best method to ensure the supply of raw products to sugar factories. Sakh. prom. 35 no. 5:3-7 My '61. (MIRA 14:5)

(Sugar industry)

KLIMOVA, V.I.

Effect of a changed function state of the higher sections of the central nervous system on the development of malignant tumors in rats. Trudy Inst. vys. nerv. deiat. Ser. patofiziol. no.9:94-98 '61. (MIRA 15:4)

(CONDITIONED RESPONSE) (CANCER)

RATNER, L.M.; KLIMOVA, V.K.

Treatment of duodenal fistulas. Vest. khir., Moskva 73 no.2:26-28 Mar-Apr 1953. (CLML 24:3)

1. Professor for Ratner. 2. Of the Faculty Surgical Clinic of Sverdlovsk Medical Institute and Sverdlovsk Oblast Oncological Dispensary.

KLIMOVA, V.K.

Treatment of duodenal fistual after resection of the stomach.
Vest.khim. 84 no.3:68-75 Mr '60. (MIRA 13:12)
(STOMACH--SURGERY) (DUODENUM--DISEASES)

USSR/Farm Animals - General Problems. Q-1

Abs Jour : Ref Zhur - Biol., No 13, 1959, 59307

Author : Klimova, V.N., Lavrova, O.S., Ryzhkova, A.T., Feklistova, N.D.

Inst : Moscow Technological Institute of Meat and Dairy Industries.

Title : The Carotene Content in Feeds of the Barybino Sovkhoz.

Orig Pub : Sb. stud. rabot. Mosk. tekhnol. in-t myasn. i molochn. prom-sti, 1958, vyp. 5, 110-115.

Abstract : No abstract.

Card 1/1

KLIMOVA, V.N.

Dump truck with a "PZA" loader. Sakh.prom. 38 no.3:42-43 Mr '64. (MIRA 17:4)

1. Adygeyskiy sakharnyy zavod.

[redacted], V. I.

"The Clinical Aspect and Therapy of Certain Types of Bite Deformations by Permanent Adjustment Apparatuses." Cand Med Sci, Khar'kov Medical Inst, Khar'kov, 1954. (KL, No 7, Feb 55)

SO: Sum. No. 631, 26 Aug 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (14)

KLIMOVA, V.P., kand.med.nauk; MARZYUK, L.N., kand.med.nauk

Arched prosthesis in paradentosis. Probl.stom. 4:361-364 '58.
(MIRA 13:6)

(GUMS--DISEASES) (DENTAL PROSTHESIS)

KLIMOVA, V.S.; KATORZHNOV, N.D.; KUDRYAVTSEV, G.I.; BEZSCHASTNOV, A.V.

Rapid method for the simultaneous determination of the monomer and moisture content of polycaprolactam. Khim.volok no.6:64-65 '63. (MIRA 17:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna.

SAPOZHNIKOV, V.I.; KLIMOVA, V.V.

Forecasting the streamflow of the Belaya River. Trudy TSIP no.105: 109-124 '60. (MIRA 14:1)
(Belaya River (Bashkiria)—Hydrology)

SAPOZHNIKOV, V.I.; KLIMOVA, V.V.

Five-day streamflow forecasts for the Aragva River at the village of Zhinvani in spring and summer. Trudy TSIP no.113:60-70 '61. (MIRA 14:9)

(Aragva River--Hydrology)

SAPOZHNIKOV, V.I.; KLIMOVA, V.V.

Forecast of a ten-year inflow of water to the Nurek Hydroelectric Power Station on the Vakhsh River. Trudy TSIP no.134:3-12 '64 (MIRA 17:8)

KLIMOVA, Ye.; SHISHMNINA, V.; KNYAZ'KOVA, Ye.

Our experience in the production of raw-smoked sausage. Miss. ind. SSSR 24 no.5:57-58 '53. (MLRA 6:12)

1. 2-y kolbasnyy zavod Leningradskogo myasokombinata.
(Sausages)

BORISOV, A.; KLIMOVA, Ye.

Simplified method of manufacturing raw-smoked sausage. Mias.ind. SSSR 33 no.2:21 '62. (MIRA 15:5)

1. Kolbasnyy zavod No.2 Leningradskogo myasokombinata.
(Sausages)

KLIMOVA, Ye.A., inzh.

Machines for sugar beet cultivation. Trakt. i sel'khozmash. 31 no.11:31 N '61. (MIRA 14:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystvennogo mashinostroyeniya.
(Sugar beets)
(Agricultural machinery)

KLIMOVA, Ye.A., inzh.

Machinery for orchards and vineyards. Trakt. i sel'khozmash. 31 no.12:26-27 D '61. (MIRA 15:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystvennogo mashinostroyeniya.
(Fruit culture) (Agricultural machinery) (Viticulture)

KLIMOVA, Ye.A., inzh.

The UKP-06 rock picker and hauler. Trakt. i sel'khozmash. 32 no.2:32-33 F '62. (MIRA 15:2)
(Agricultural machinery)

KLIMOVA, Ye.A., insh.

The PS-0, 9A rotary garden cultivator. Trakt.i sel'khozmash. 32 no.4:42 Ap '62. (MIRA 15:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystvennogo mashinostroyeniya.
(Cultivators)

KLIMOVA, Ye.A.

The AAP-0,5 "Mikron" pulsatory aerosol apparatus. Trakt. i sel'khozmash. 33 no.1:32-33 Ja '63. (MIRA 16:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystvennogo mashinostroyeniya.

(Spraying and dusting equipment)

KOCHENENKO, D.V., kand.sel'skokhoz.nauk; KLIMOVA, Ye.A., inzh.

Sprayer for vineyards and orchards mounted on a small-size crawler tractor. Zashch.rast.ot vred. i bol. 4 no.4:54 Jl-Ag '59. (MIRA 16:5)

(Spraying and dusting equipment)

ARBUZOV, Yu.A.; KLIMOV, Ye.M.; KLIMOVA, Ye.I.

Diene synthesis with glyoxylic acid esters. Dokl. AN SSSR 142 no.2:341-343 Ja '62. (MIRA 15:2)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova. Predstavleno akademikom A.Ye.Arbuzovym.
(Olefins)
(Glyoxylic acid)

ARBUZOV, Yu.A.; KLIMOVA, Ye.I.

Condensation of glyoxylic acid esters with ketones.
Zhur.ob.khim. 32 no.11:3676-3681 N '62. (MIRA 15:11)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.

(Glyoxylic acid)
(Ketones)

L 44327-66 EWT(1) GD/GW

ACC NR: AT6028288 SOURCE CODE: UR/0000/64/000/000/0066/0075

AUTHOR: Bonchkovskaya, T. V.; Klimova, Ye. I.; Mishina, M. I.; Nikitin, V. G. 61 B1

ORG: none

TITLE: The problem of heat transfer in the lower layer of the atmosphere

SOURCE: AN SSSR. Institut prikladnoy geofiziki. Issledovaniya teploobmena v atmosfere (Investigations of heat exchange in the atmosphere). Moscow, Izd-vo Nauka, 1964, 66-75

TOPIC TAGS: micrometeorology, surface boundary layer, atmospheric turbulence, ~~radiation balance~~, ~~lapse rate~~, wind ~~speed~~ velocity, meteorologic observation, atmospheric convection, radiative heat transfer, atmospheric radiation, atmospheric thermodynamics

ABSTRACT: The results of an analysis of meteorological observations made to investigate convective heat exchange in the surface boundary layer of the atmosphere are presented. The observations were conducted in the summer of 1960 in a level field covered with uniform vegetation in the Kuban' Steppe area. Temperatures and wind speeds were measured at three levels in the bottom six-meter layer of the atmosphere, as were the soil temperatures at several depths and the characteristics of radiation heat exchange. The information obtained was used to calculate the magnitude of the heat flux in the soil (by the Main Geophysical Observatory method) and the vertical turbulent heat flux in the atmosphere (by the Kazanskiy and Monin method). A series of graphs was constructed which illustrate the presence of correlative relationships between individual characteristics of meteorological conditions in the surface boundary layer of the atmosphere. Such quantities as wind speed, wind-speed gradient, lapse rate, radiation balance, heat flux in the soil, turbulent heat flux, the Richardson number, etc., are compared. The conclusions are of a descriptive nature. [EQ]

Card 1/2

SUB CODE: 04 / SUBM DATE: 24Jun64/ ORIG REF: 004.

Card 2/2 blg

A L 10620-66

ACC NR: AP5027302 SOURCE CODE: UR/0241/65/010/010/0022/0029

AUTHOR: Klimova, Ye. N. 27 B

ORG: none

TITLE: Disturbance of conditioned reflex activity under the chronic influence of strontium 90

SOURCE: Meditsinskaya radiologiya, v. 10, no. 10, 1965, 22-29

TOPIC TAGS: radio strontium, radiation injury, experiment animal, nervous system, conditioned reflex, reflex activity, radiation biology effect

ABSTRACT: The chronic effect of Sr^{90} was studied in 4 dogs receiving a daily 0.02 μc/kg dose by mouth for 4 years, corresponding to a 144 rad dose in the skeleton. The animals' conditioned reflexes were tested 2-3 times per week in respect to food with occasional electric reinforcement, and a stereotype was established for each dog. Blood, cardiovascular and immunologic tests were done every 3 months. The animals' health condition was normal throughout the test period apart from periodic transient gastrointestinal disturbances and changes in weight, with one exception in a dog which showed changes in blood chemistry after 2 years. However, shortly after the tests started wave-like

Card 1/2 UDC: 612.825.1.014.482

L 10620-66

ACC NR: AP5027302

changes in conditioned reflex activity were seen consisting in sharp variations of positive conditioned reflex activity and weakening of internal inhibition down to complete disappearance with return to normal after a few months. In animals with an excitable nervous system irritability was significantly increased; in those with low irritability weakening of the irritative process was observed. No such changes were seen in the control. These manifestations indicate distinct disturbances of higher nervous activity under the influence of chronic Sr^{90}. Orig. art. has: 2 figures and 1 table.

SUB CODE: 06, / SUBM DATE: 07Aug63/ ORIG REF: 006/ OTH REF: 000

HW
Card 2/2

KLIMOVA, Ye.N.; ALEKSEYEVA, O.G.

Some features of the development of radiation lesions in dogs under the chronic effect of Sr^{90}. Med.rad. 5 no.3:3-7 '60. (MIRA 13:12)

(STRONTIUM--ISOTOPES) (RADIATION SICKNESS)

KLIMOVA, Ye.N.

Effect of uranium tetrafluoride on the higher nervous activity of dogs. Radiobiologiia 1 no.3:399-406 '61. (MIRA 14:10)
(URANIUM FLUORIDES) (CEREBRAL CORTEX)

ALEKSEYEVA, O.G.; KLIMOVA, Ye.N.; KORCHEMKIN, B.I.; PETROVICH, I.K.

Initial manifestations of injuries in dogs exposed to daily administrations of Sr^{90}. Med.rad. 6 no.8:57-64 Ag '61. (MIRA 14:8)

(STRONTIUM—ISOTOPES) (RADIATION SICKNESS)

FILATOV, K.Ye.; KLIMOVA, Ye.P.

Eliminate shortcomings in the working out and development of organizational and technological planning in bakeries. Khleb. i kond. prom. 1 no.12:26-29 D '57. (MIRA 11:1)

1. Vsesoyuznyy zaochnyy institut pishchevoy promyshlennosti.
(Bakers and bakeries)

KLIMOVA, Ye. S.

COUNTRY : USSR
CATEGORY : Cultivated Plants. Forage Crops.

ABS. JOUR. : RZhBiol., No. 23 1958, No. 104724

AUTHOR : Klimova, Ye. S.
INST. : Natural Science Institute at Perm' University
TITLE : The Influence of Spraying with Solutions of Microelements on the Seed Production of Alfalfa.

ORIG. PUB. : Izv. Estestv.-nauchn. in-ta pri Permsk. un-te, 1957, 14, No. 1, 43-48

ABSTRACT : Experiments were carried out in 1953 and 1954 at Troitskiy Training and Experimental Forestry of Perm' University. During the blossoming of alfalfa, it was sprayed with solutions of microelements in the concentration of from 0.01 to 0.1%. The best results were obtained from the sprayings with solutions of Mn, Cu, Mg, B and Mg which increased the yield of alfalfa seeds by 40-86 kilograms or by 33-82% in comparison with the control. The weight of the aggregate mass of the plants increased on an average by 19%. In 1954,

Card: 1/2

67

KLIMOVA, Yu.N.

Rheologic properties of kaolin and its dispersion. Bum. prom. 36 no.8:15-16 Ag '61. (MIRA 14:8)

1. Moskovskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta bumazhnoy promyshlennosti.
(Kaolin) (Paper)

LIKHOMSKIY, Vladislav Tadeushevich; YERSHOV, Aleksandr Varfolomeyevich; KLIMOVA, Yu.N., red.

[Manufacture of coated paper] Proizvodstvo melovannoi bumagi. Moskva, Izd-vo "Lesnaia promyshlennost'", 1964. 69 p. (MIRA 17:5)

DANITS, P.; KLIMOVA, Z. [translator]

Man studies insects. Nauka i zhizn' 28 no.12:68-73 D '61.
(MIRA 15:2)
(Entomological research)

BELEN'KIY, S.I.; KLIMOVA, Z.K.

Processing cotton stalks by means of hydrolysis. Gidrolis.i lesokhim.prom. 13 no.1:7-10 '60. (MIRA 13:5)

1. Nauchno-issledovatel'skiy institut gidrolisnoy i sul'fitno-spirtovoy promyshlennosti.
(Uzbekistan--Cotton) (Hydrolysis)

BELEN'KIY, S.I.; KLIMOVA, Z.K.; SHPUNTOVA, M.Ye.; CHERFMUKHIN, I.K.

Rapid continuous inversion of pentose hydrolyzates. Gidroliz. i lesokhim. prom. 14 no.7:25-27 '61. (MIRA 14:11)

1. Nauchno-issledovatel'skiy institut gidrolizmoy i sul'fitno-tsellyuloznoy promyshlennosti (for Belen'kiy, Klimova, Shpuntova).
2. Farganskiy gidrolizmyy zavod (for Cheremukhin).
(Pentoses)
(Hydrolysis)

9,9100

7116
S/165/61/000/001/005/007
A104/A127

AUTHORS: Bogdanova, M.D., Yerofeyev, N.M., Klimova, Z.N.

TITLE: Characteristics of the ionosphere at Ashkhabad in January 1960

PERIODICAL: Akademiya nauk Turkmenskoy SSR. Izvestiya. Seriya fiziko-tekhnicheskikh, khimicheskikh i geologicheskikh nauk, no. 1, 1961, 74 - 76

TEXT: The article discusses the vertical sounding of the ionosphere coupled with the registration of altitudinal frequency characteristics carried out in the automatic, panoramic ionosphere station АИС (AIS) at Ashkhabad in January 1960. [Abstracter's note: АИС (AIS) not defined.] Some results of these observations are shown in Table 1, others were published by the IZMIR AN SSSR (Institute of Space Sound Recording of the Academy of Sciences USSR), in "Kosmicheskiye dannyy", February 1960, no. 2 (48), 23. It is interesting to compare the observed meridian values of the critical frequencies of layer F_2 with forecasts and 1959 observations. The deviations of $f_o F_2$ values from forecasts were chiefly decreasing, sometimes 33%; as shown in column $\pm \Delta f_o F_2$ of Table 1. A comparison of observation data in January 1960 to that in January 1959 reveals lower critical frequencies of the F_2 layer in 1960 (column: $\pm$ $f_o F_2$ 1959).

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Characteristics of the ionosphere ...

The considerable decrease of solar activity was reflected also in the conduct of other ionospheric layers. Layers E and F_2 showed identical daytime decrease (6 - 7%) of f o Es. The occurrence of sporadic layer E increased to 42% in January 1960 as compared to 35% in January 1959. (Column: $\pm \Delta$ RE% 1959). The ionospheric perturbance in January 1960 had increased in comparison to January 1959. The resulting number of perturbed hours $\pm \Delta f$ o $F_2 \geqslant 20\%$ in 1960 was 98, i.e. 62 negative and 36 positive; in 1959 there were only 81 perturted hours, i.e. 46 negative and 35 positive. In January 1959 a positive perturbance with 35% maximum deviation value at a total maximum deviation of 37% was recorded. In addition to the compiling of data on monthly perturbance characteristics, efforts were made to establish the dates of calmest days, i.e. free ionospheric and/or magnetic perturbances. In Ashkhabad such days were January 30 and 31, 1960. Mh-profiles calculated according to Kel'so's method by taking into account the influence of the magnetic field are shown in Figure 1. It should be noted that this influence effects only negligible corrections in Ashkhabad latitudes. The above calculations are based on a number of assumptions: the electronic concentration of the ionosphere increases steadily with altitude; altitudes of frequencies below the lower limit of instruments within a range of 0 - 0,6 Mc had a value of 100 km per 24 hours and from 0,6 Mc to $f$min. Mc were subject

Card 2/5

Characteristics of the ionosphere ...

to linear increase law. The obtained Nh-profile leads to the conclusion that the main energy used for the ionization of the ionosphere was concentrated at atmospheric altitudes of 200 - 300 km. Highest altitudes were observed before midnight. Daily altitude variations of the Nh-profile are inadequately expressed. There were three minimums, two of which occur at F_2 2 - 3 hours after sunrise or sunset, the third is oriented symmetrically towards either of these before sunrise. There is 1 table, 1 figure and 4 Soviet-bloc references.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN Turkmenskoy SSR (Physical Technical Institute of the Academy of Sciences Turkmenskaya SSR)

SUBMITTED: July 7, 1960

Card 3/3

S/169/61/000/012/086/089
D228/D305

AUTHORS: Yerofeyev, N. M., Klimova, Z. N., and Stepanova, M. B.

TITLE: Characteristics of the ionosphere above Ashkhabad in February 1960

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 12, 1961, 25, abstract 12G200 (Izv. AN TurkmSSR. Ser. fiz.-tekhn., khim. i geol. n., 1961, no. 2, 100-103)

TEXT: The results are given for the processing of the observations of the ionospheric station at Ashkhabad in February 1960 and for their comparison with the forecast and observations of February 1959. The values of f_0F2 observed in February 1960 were below the forecast values (by up to 27%), the greatest deviations being observed in the night and morning hours. In

Card 1/2

Characteristics of the...

February 1960, the magnitudes of f_0F2 were lower than in February 1959. The percentage appearance for E_s fell from 44% in February 1959 to 30%. The ionospheric disturbances of February 1960 are described. The degree of disturbance in February diminished in comparison with January 1960 and February 1959. The quietest day in respect of the magneto-ionospheric activity (24/II) was distinguished, and Nh-profiles were calculated for it. [Abstracter's note: Complete translation.]

Card 2/2

BERKELIYEV, M.; YEROFEYEV, N.M.; KLIMOVA, Z.N.; STEPANOVA, M.B.

Characteristics of the ionosphere over Ashkhabad in March 1960.
Izv.AN Turk.SSR.Ser.fiz.-tekh., khim.i geol.nauk no.3:92-95 '61.
(MIRA 14:7)

1. Fiziko-tekhnicheskiy institut AN Turkmenskoy SSR.
(Ionosphere)

KLIMOVA-CHERKASOVA, V.I. (Leningrad)

Study of some problems of the physiology of the nervous system in laboratories of the Hungarian People's Republic. Fiziol. zhur. 47 no.12:1510-1513 D '61. (MIRA 15:1)

(HUNGARY--NEUROLOGY)

KLIMOVA-CHERKASOVA, V.I.

Inhibiting and stimulating influences of the central nervous system on cardiac activity and respiration in birds. Fiziol. zhur. 47 no.6:721-728 Je '61. (MIRA 15:1)

1. From the Department of Comparative Physiology and Pathology Institute of Experimental Medicine.
(CHLORPROMAZINE) (NERVOUS SYSTEM, AUTONOMIC)
(HEART) (RESPIRATION)

BIRYUKOV, D.A.; ANTROPOV, G.A.; KLIMOVA-CHERKASOVA, V.I.; KOROTKOVA, Ye.A.; SHLYAFER, T.P.; YAKOVLEVA, M.I.

Comparative and physiological features of the effect of aminazine on the regulation of cardiovascular activity. Fizio. zhur. 48 no.8:953-959 Ag'62. (MIRA 16:6)

1. From the Laboratory for Comparative Physiology and Pathology, Institute of Experimental Medicine, Leningrad.
(CARDIOVASCULAR SYSTEM) (CHLORPROMAZINE)

KLIMOVA-CHERKASOVA, V.I.

Mechanisms of the central effects of the vegetative nervous system on cardiac activity. Trudy Inst. klin. i eksper. kard. AN Gruz. SSR 8:525-527 '67 (MIRA 17:7)

1. Institut eksperimental'noy meditsiny AMN SSSR, Leningrad.

ANTROPOV, G.A.; KLIMOVA-CHERKASOVA, V.I.; KORNEVA, Ye.A.; SHLYAFER, T.P.; YAKOVLEVA, M.I.

Comparative physiological characteristics of the effect of aminazine on the regulation of cardiovascular activity. Trudy Inst. klin. i eksper. kard. AN Gruz. SSR 8:533-535 '63. (MIRA 17:7)

1. Laboratoriya sravnitel'noy fiziologii.

VASILEVSKIY, N.N.; KLIMOVA-CHERKASOVA, V.I.; VARTANYAN, O.A.

Structural and functional correlations between excitation and inhibition in the central nervous system. Fiziol.zhur. 51 no.4:424-430 Ap '65. (MIRA 18:6)

1. Institut eksperimental'noy meditsiny AMN SSSR, Leningrad.

L 1685-66

ACCESSION NR: AP5017393 UR/0239/65/051/007/0784/0792
612.178+612.826.4

AUTHOR: Klimova-Cherkasova, V. I. 20 B

TITLE: Significance of the diencephalon and mesencephalon in central inhibitory mechanisms of heart activity

SOURCE: Fiziologicheskiy zhurnal SSSR, v. 51, no. 7, 1965, 784-792

TOPIC TAGS: experiment animal, brain, reflex activity, electrophysiology, cardiovascular system, blood pressure

ABSTRACT: In experiments on cats the effects of the diencephalon and the mesencephalon on parasympathetic inhibition of heart activity were determined by vagus nerve excitability before and after electric stimulation (10-15 sec) of various nuclei of these brain areas. Three groups of cats in a narcotic state (urethane 1 g/kg) were investigated under the following conditions: control, chronic (partial injury of the brain areas), and acute (serious bilateral injury of the brain areas). In the control and chronic experiments, animals received electric stimuli through implanted bipolar electrodes, and in the acute experiment monopolar electrodes were used to

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ACCESSION NR: AP5017393

stimulate the vagus nerve. A square pulse generator produced the electric stimuli of 1 msec duration with varying amplitudes and frequencies. The excitability of the bulbar centers of the vagus nerve and cardiovascular system were determined by the depressor effect and pulse rate. Blood pressure measured by a mercury manometer, respiratory movements, and in some cases EEG data were recorded on moving picture film. Findings show that different parts of the diencephalon and mesencephalon participate in regulating the functional state of parasympathetic innervation of the heart. Under acute experimental conditions, the effects of the diencephalon and mesencephalon on reflex excitability of the vagus nerve were largely determined by the parameters of electric stimuli. The optimal parameters of these stimuli for the thalamus and hypothalamus are not the same. The central inhibitory effects of the vagus nerve on the heart and blood pressure are not confined to the central bulbar links but extend to the peripheral cholinergic fibers as well. Orig. art. has: 5 figures.

ASSOCIATION: Otdel sravnitel'noy fiziologii i patologii, Institut eksperimental'noy meditsiny AMN SSSR, Leningrad (Branch of Comparative

Card 2/3

L 1685-66
ACCESSION NR: AP5017393

Physiology and Pathology, Institute of Experimental Medicine, AMN SSSR, Leningrad)

SUBMITTED: 13Jan64 ENCL: 00 SUB CODE: LS

NR REF SOV: 015 OTHER: 012

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KLIMOVA-CHERKASOVA, V.I.

Problem of the 'central tonus' according to materials of the international symposium in Berlin. Fiziol. zhur. 51 no.8:1021-1024 Ag '65. (MIRA 18:7)

1. From the Institute of Experimental Medicine, Leningrad.

KLIMOVA, CHERKASOVA, V.I.

Central mechanisms of tonic activity of the vagus nerve according to electrophysiological data. Fiziol. zhur. 50 no.8:1008-1016 Ag '64. (MIRA 18:12)

1. Laboratoriya sravnitel'noy fiziologii i patologii Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad.

L 29367-66

ACC NR: AP6019797 SOURCE CODE: UR/0239/65/051/004/0424/0430

AUTHOR: Vasilevskiy, N. N.; Klimova-Cherkasova, V. I.; Vartanyan, G. A. 34 B

ORG: Institute of Experimental Medicine, AMN SSSR, Leningrad (Institut eksperimental'noy meditsiny AMN SSSR)

TITLE: Structural and functional interrelationships between excitation and inhibition in the central nervous system 22

SOURCE: Fiziologicheskiy zhurnal SSSR, v. 51, no. 4, 1965, 424-430

TOPIC TAGS: central nervous system, cat, neuron, neurophysiology

ABSTRACT: In experiments with cats, individual motor neurons of the spinal cord were stimulated electrically by applying the microelectrode technique. At current frequencies ≥ 300 cycles excitation postsynaptic potentials were suppressed entirely and only inhibition postsynaptic potentials were observed. In another series of experiments, also conducted on cats, the response of a thin bundle of n. vagi fibers upon bipolar stimulation of medial divisions of the brain stem (medial nuclei of the thalamus, central grey matter around the aqueduct of sylvius) was studied. It was established that within the motor nucleus of the vagus nerve motor neurons differed in regard to their functional characteristics as far as stimulation and inhibition of discharges synchronous with inhalation (inspiration) and exhalation

Card 1/2 UDC: 612.822.3

L 29367-66
ACC NR: AP6019797

(expiration) was concerned. At sufficiently high frequencies (> 200 cycles) of the current applied, neurons stimulating inspiration were inhibited, while neurons inhibiting inspiration were activated. Frequencies > 200 cycles were optimum for expiration, while those in the range from 30 to 100-200 cycles had an optimum effect in stimulating inspiration. It was established in earlier work done by other investigators that two types of fiber are present in the vagus nerve, i.e., fibers that transmit afferent impulses stimulating inspiration and fibers that transmit efferent impulses stimulating expiration. Both series of experiments indicated that there are functional differences between activating and inhibiting systems entering into the composition of the coordinating mechanisms of nerve activity and that these systems must be structurally distinct. Orig. art. has: 4 figures. [JPRS]

SUB CODE: 06 / SUBM DATE: 29Dec63 / ORIG REF: 009 / OTH REF: 009

Card 2/2